

Patent
071949-1307THE CLAIMS

Please replace the currently pending claims with the following amended claims. In accordance with the newly instituted revised amendment format, a complete set of claims follows, with new material to be added to the claims shown as underlined, and material to be deleted shown as ~~struck through~~.

1-73. Cancelled.

74. (Currently amended) An assay device for detecting a plurality of target ligands in a sample, comprising:

a nonporous smooth surface or a nonporous textured surface, said nonporous textured surface comprising one or more depressions or protrusions extending between 1 nm and 0.5 mm from said nonporous textured surface; and

a plurality of discrete capture zones on said surface, each said capture zone comprising receptors immobilized thereon to said surface or immobilized on particles immobilized to said surface, wherein said receptors are capable of binding one or more of said plurality of target ligands, wherein said capture zones occupy one or more discrete hydrophilic regions of said surface delimited by an adjacent hydrophobic region of said surface.

75. (Previously added) An assay device according to claim 74, wherein each said discrete capture zone comprises receptors independently selected from the group consisting of antibodies, antibody fragments, nucleic acid molecules, and chelators.

76. (Previously added) An assay device according to claim 74, wherein each said discrete capture zone binds a different target ligand from amongst said plurality of target ligands.

77. (Previously added) An assay device according to claim 76, wherein said plurality of target ligands are a plurality of nucleic acid molecules, and each said discrete capture zone comprises a nucleic acid molecule having a nucleotide sequence that is complementary to one of said plurality of nucleic acid molecules.

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78. (Previously added) An assay device according to claim 76, wherein each said discrete capture zone comprises an antibody, or a fragment thereof, capable of binding one of said plurality of target ligands.

79. (Currently amended) An assay device according to claim 74, wherein one or more of said discrete capture zones comprise one or more particles immobilized ~~thereon~~ to said surface, wherein said receptors are immobilized on said particles.

80. (Previously added) An assay device according to claim 79, wherein said receptors are antibodies, or fragments thereof.

81. (Previously added) An assay device according to claim 79, wherein said surface is a textured surface, and one or more of said particles are entrapped within depressions and/or between protrusions on the textured surface.

82. (Previously added) An assay device according to claim 79, wherein said particles are selected from the group consisting of latex particles, silica particles, zirconia particles, alumina particles, titania particles, ceria particles, metal sol particles, and polystyrene particles.

83. (Currently amended) An assay device according to any one of claims 74-82 and 92-100, wherein said nonporous surface forms a capillary space between said nonporous surface and a second surface spaced at a capillary forming distance from said nonporous surface.

84. (Currently amended) An assay device according to any one of claims 74-82 and 92-100, wherein said nonporous surface is not part of a capillary space.

85. (Currently Amended) An assay device for detecting one or more target ligands in a sample, comprising:

a nonporous surface comprising one or more particles immobilized ~~thereon~~ to said surface, wherein said particles comprise receptors immobilized thereon capable of binding said one or more target ligands.

86. (Previously added) An assay device according to claim 85, wherein said receptors are antibodies, or fragments thereof.

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87. (Previously added) An assay device according to claim 85, wherein said surface is a textured surface comprising one or more depressions and/or protrusions extending between 1 nm and 0.5 mm from said surface.

88. (Previously added) An assay device according to claim 87, wherein one or more of said particles are entrapped within depressions and/or between protrusions on the textured surface.

89. (Previously added) An assay device according to claim 85, wherein said particles are selected from the group consisting of latex particles, silica particles, zirconia particles, alumina particles, titania particles, ceria particles, metal sol particles, and polystyrene particles.

90. (Previously added) An assay device according to any one of claims 85-89, wherein said nonporous surface forms a capillary space between said nonporous surface and a second surface spaced at a capillary forming distance from said nonporous surface.

91. (Previously added) An assay device according to any one of claims 85-89, wherein said nonporous surface is not part of a capillary space.

92. (Newly added) An assay device for detecting a plurality of target ligands in a sample, comprising:

a nonporous smooth surface or a nonporous textured surface, said nonporous textured surface comprising one or more depressions or protrusions extending between 1 nm and 0.5 mm from said nonporous textured surface; and

a plurality of discrete capture zones on said surface, each said capture zone comprising receptors immobilized thereon to said surface or immobilized on particles immobilized to said surface, wherein said receptors are capable of binding one or more of said plurality of target ligands, wherein said capture zones are located in one or more diagnostic elements of said surface, said diagnostic elements being hydrophilic and delimited by one or more adjacent hydrophobic regions of said surface.

93. (Newly added) An assay device according to claim 92, wherein each said discrete capture zone comprises receptors independently selected from the group consisting of antibodies, antibody fragments, nucleic acid molecules, and chelators.

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94. (Newly added) An assay device according to claim 92, wherein each said discrete capture zone binds a different target ligand from amongst said plurality of target ligands. ⁷

95. (Newly added) An assay device according to claim 94, wherein said plurality of target ligands are a plurality of nucleic acid molecules, and each said discrete capture zone comprises a nucleic acid molecule having a nucleotide sequence that is complementary to one of said plurality of nucleic acid molecules.

96. (Newly added) An assay device according to claim 94, wherein each said discrete capture zone comprises an antibody, or a fragment thereof, capable of binding one of said plurality of target ligands.

97. (Newly added) An assay device according to claim 92, wherein one or more of said discrete capture zones comprise one or more particles immobilized to said surface, wherein said receptors are immobilized on said particles.

98. (Newly added) An assay device according to claim 97, wherein said receptors are antibodies, or fragments thereof.

99. (Newly added) An assay device according to claim 97, wherein said surface is a textured surface, and one or more of said particles are entrapped within depressions and/or between protrusions on the textured surface.

100. (Newly added) An assay device according to claim 97, wherein said particles are selected from the group consisting of latex particles, silica particles, zirconia particles, alumina particles, titania particles, ceria particles, metal sol particles, and polystyrene particles.